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## Two New Records of Lixinae (Coleoptera: Curculionidae) from Egypt

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### ABSTRACT

The two species *Ammocleonus aschabadensis* (Faust, 1884) and *Lixus (Compsolixus) castellanus* Chevrolat, 1866 are recorded for the first time from the Egyptian fauna. The finding of these two species increased the number of the records of the two genera *Ammocleonus* and *Lixus* from one to two and from 21 to 22 respectively. Synonymy, diagnoses, specimens examined, photographs and distributions are given for the two recorded species.

### INTRODUCTION

The true weevils subfamily Lixinae Schönherr, 1823, belongs to the order Curculionidae (Coleoptera: Polyphaga: Curculionoidea). It is a cosmopolitan subfamily and includes about 1500 species within 90 genera worldwide (Alonso- Zarazaga & Lyl 1999, Meregalli, 2014) with the largest number of taxa occurring in the Palaearctic and Afrotropical regions. Lixinae constitutes two tribes; Cleonini Schönherr, 1826 and Lixini Schönherr, 1823 with Cleonini being the most diverse. They are mainly root feeders.

The members of this subfamily are characterized by the following characters: body elongated, the rostrum is forwardly directed, tibia bears an uncus (small hook) on its distal end, tarsal claws are fused at the base and labial palps are short and telescoping.

A large numbers of tribe Cleonini, including genus *Ammocleonus* Bedel, is associated with Amaranthaceae, Chenopodioideae (Zarrabi et al. 2005). While on the other hand, among tribe Lixini; genus *Lixus* Fabricius is a cosmopolitan and comprises several subgenera, each one often restricted to a single biogeographical region (Meregalli, 2014). Most members of *Lixus* are stem borers associated with Asteraceae Cardueae (Hoffmann 1954). Among other plant families used by species of *Lixus* are Apiaceae, Brassicaceae, Amaranthaceae, especially those of the tribe Chenopodioideae (formerly Chenopodiaceae) (Korotyaev & Gültekin 2003).

Genus *Ammocleonus* Bedel, 1807 is characterized by the following characters: large-sized with an oval body, rostrum with distinct middle carina forked on both ends,

upper margin of scrobe touch lower margin of eye. While genus *Lixus* Fabricius, 1801 is characterized by rostrum being almost parallel-sided, pronotum without depression or tubercle, elytra gradually sloping to apex, fore tibia straight externally, intercoxal process of third abdominal sternum acuminate.

In Egypt, Lixinae was early studied by Alfieri, 1976 who recorded 80 species within 33 subgenera under six genera. More recently, Abd El Halim (2015) studied Lixinae from Egypt and reported 78 species belonging to 15 subgenera within 27 genera under two tribes.

In this study, two species belonging to the two genera *Ammocleonus* and *Lixus* were recorded from Egypt for the first time through the materials located in the Egyptian Reference Collections.

## MATERIALS AND METHODS

The specimens for this study are preserved in the collection of the Ministry of Agriculture, Plant Protection Institute; Department of Taxonomy (MAC). General morphology follows Legalov *et al.* (2010) and Skuhrovec *et al.* (2014). Specimens were examined under a LABOMED, CZM4 dissecting, binocular microscope. Measurements were made using an ocular micrometer. Colored images were taken by a digital camera (Sony Dsc-W610).

## RESULTS

### *Ammocleonus aschabadensis* (Faust, 1884) (new record):

(Fig. 1: a-c).

*Ammocleonus aschabadensis* (Faust, 1884): 459.

*Isomerus aschabadensis* Faust, 1884c: Ent. Zeit. Stettin XLV: 459.

*Isomerus brahminus* Faust, 1884c: Ent. Zeit. Stettin XLV: 460.

*Ammocleonus aschabadensis* (Faust): Legalov *et al.*, 2010: Amurian Zoological Journal II: 206.

*Ammocleonus aschabadensis* (Faust): Meregalli and Fremuth, 2013: Catalogue of Palaearctic Coleoptera, 8 (II): 437

*Ammocleonus aschabadensis* (Faust): Alonso Zarazag, M. A. *et al.* (2017): Cooperative Catalogue of Palaearctic Coleoptera Curculionidea, Monografías electrónicas SEA 8 Sociedad Entomológica Aragonesa S.E.A., p: 421.

**Type Locality:** Aschabad (Turkmenistan)

#### **Measurements:**

Body length excluding rostrum: 13 mm.

Rostrum: length 2.3 mm, width 1.5mm.

Pronotum: length 4 mm, width 3 mm.

Elytra: length 8 mm, width 2.5 mm.

#### **Diagnosis:**

**Body** oblong-ovate, black or brown, covered with gray pubescens. **Rostrum** with distinct three carinae; two lateral carinae extending from midpoint of the eye to rostral apex, middle carina forked at the apex. **Antenna** reddish-brown, with flagellum nearly as long as scape, the second segment of flagellum longer than the first one. **Head** fine punctuated with frontal pit. **Pronotum** black, disc covered with fine granules and sparsely large granules and punctures, with two postocular depressions at the base of the head and lateral margins densely covered with gray pubescens. **Elytra** elongated black, with shallow punctuated striae, the base of elytra slightly arched and broader than pronotum and apex of elytra slightly pointed.

**Specimens examined:**

Kerdasa, 8. IV. 1931 (1) ..... (MAC)

**Local distribution:** Lower Nile valley

**World distribution:** Arab Emirates, Afghanistan, Iran, Iraq, Kuwait, Pakistan, Saudi Arabia, Turkmenistan and Oriental region

***Lixus (Compsolixus) castellanus* Chevrolat, 1866 (new record):**

**(Fig. 1: d & e).**

*Lixus (Compsolixus) castellanus* Chevrolat, 1866: 28

*Lixus (Compsolixus) castellanus* var. *lugens* Petri, 1912: Ann. Hist.-nat. Mus. Nat. Hung. X: 280

*Lixus (Compsolixus) castellanus* Chevrolat: Gültekin and Fremuth, 2013: Catalogue of Palaearctic Coleoptera, 8(II): 465.

*Lixus (Compsolixus) castellanus* Chevrolat: Alonso Zarazag, M. A. *et al.* (2017): Cooperative Catalogue of Palaearctic Coleoptera Curculionidea, Monografías electrónicas SEA 8 Sociedad Entomológica Aragonesa S.E.A., p: 446.

**Type Locality:** Spain

**Measurements:**

Body length excluding rostrum: 10 mm.

Rostrum: length 1.5 mm, width 0.8 mm.

Pronotum: length 2 mm, width 2 mm.

Elytra: length 6.5 mm, width 2 mm.

**Diagnosis:**

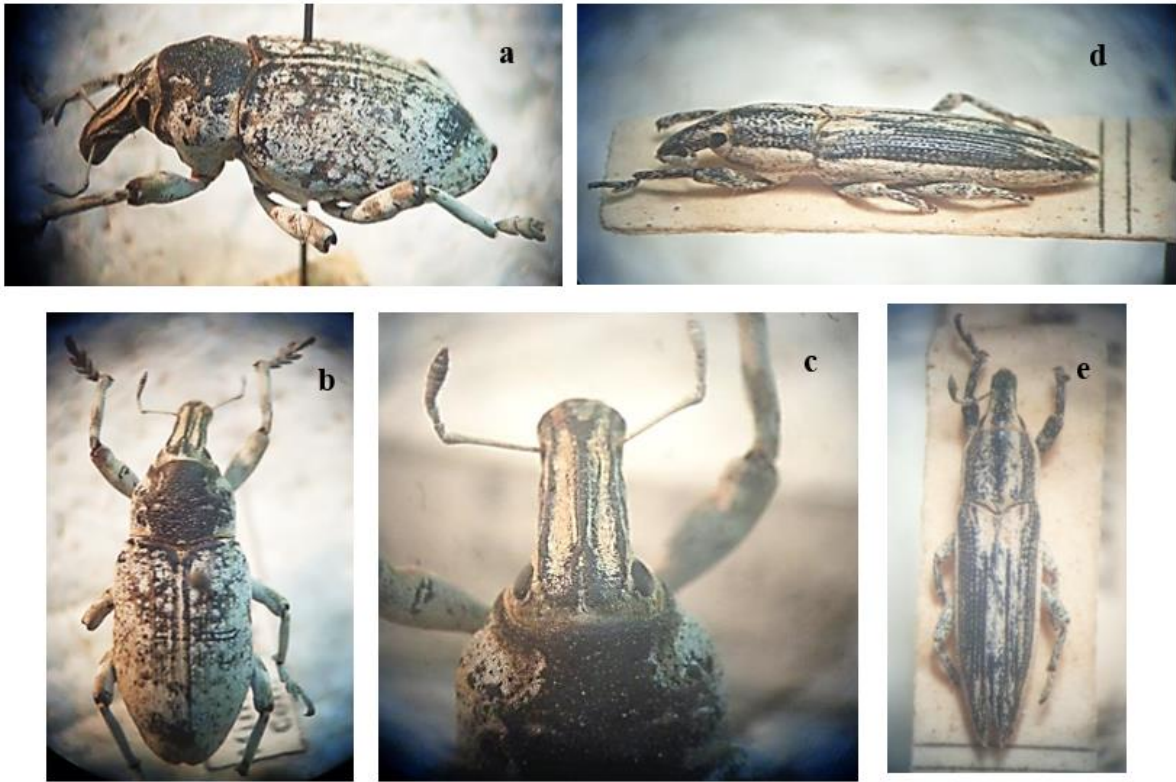
**Body** elongated, cylindrical black, covered with short beige pubescens. **Rostrum** elongated cylindrical without carinae. **Head** with shallow frontal pit. **Pronotum** broadly constricted anteriorly and with the white lateral band and fine punctuations. **Elytra** with punctuated striae, with white lateral band and apex with mucrons.

**Specimens examined:**

Abu Rowash, 28. II. 1934 (1) ..... (MAC)

**Local distribution:** Lower Nile valley

**World distribution:** Algeria and Morocco (incl. Western Sahara), Spain (incl. Gibraltar).



**Fig. 1:** a-c. *Ammocleonus aschabadensis* (Faust, 1884): a. Habitus, lateral view, b. Habitus, dorsal view, c. Head and rostrum. **d & e.** *Lixus (Compsolixus) castellanus* Chevrolat, 1866: d. Habitus, lateral view, e. Habitus, dorsal view.

## DISCUSSION

Genus *Ammocleonus* is widespread in Africa and Asia and constitutes only five species (Gültekin and Fremuth, 2013). In Egypt, it was hitherto represented by only one species *Ammocleonus hieroglyphicus* (Oliver, 1807) as recorded by Abd El Halim (2015). During examining the material of this species deposited in (MAC) a single specimen collected from Kerdasa at 8-4-1931 was found among the specimens and was incorrectly identified as *A. hieroglyphicus* Oliver. By thoroughly examination of the specimen, it was identified as *A. aschabadensis* Faust. The two species are distinguished by the following characters: the first segment of flagellum as long as the second one in *A. hieroglyphicus* Oliver but, the second segment of flagellum longer than the first one in *A. aschabadensis* Faust. Punctuation of pronotum in *A. aschabadensis* Faust with slightly deep punctures and apex of elytra in *A. hieroglyphicus* Oliver rounded and in *A. aschabadensis* Faust slightly pointed.

In his work, Abd El Halim (2015) recorded 21 species under genus *Lixus* Fabricius, 1801 from Egypt. The author divided the genus into seven subgenera: *Compsolixus* Reitter, 1916, *Dilixellus* Reitter, 1916, *Epimeces* Billberg, 1820, *Eulixus* Reitter, 1916, *Ortholixus* Reitter, 1916, *Phillixus* Petri, 1904 and *Prionolixus* Desbrochers, 1904 with subgenus *Compsolixus* being the most diverse, containing seven species and characterized by pronotum and elytra with white bands on lateral margins, pronotum and elytra not granulated. In the current work, *Lixus (Compsolixus) castellanus* Chevrolat is newly recorded from Egyptian fauna and is easily recognized from the two closely related species: *Lixus (Compsolixus) anguinus* (Linnaeus, 1767) and *Lixus (Compsolixus)*

*albomarginatus* Boheman, 1842 by the following characters: its rostrum shorter and thicker, the punctuation of pronotum and striae of elytra deep and mucrons of elytra long.

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**REFERENCES**

- Abd El Halim, F. A. (2015): Taxonomy and spatial distribution of Egyptian Lixinae weevils (Coleoptera: Curculionidae). Ph. D. Thesis, Zoology Department, Faculty of Science, Zagazig University, 283pp.
- Alfieri, A. (1976). The Coleoptera of Egypt (Monograph). *Mémoires de la Société Entomologique D'Egypt*, 5; Curculionidae: 245-276.
- Alonso-Zarazaga, M. A. & Lyal, C. H. C. (1999): A world catalogue of Families and Genera of Curculionoidea (Insecta: Coleoptera) (Excepting Scolytidae and Platypodidae). 315 pp. – Entomopraxis, S.C.P. Barcelona, Spain.
- Alonso Zarazag, M. A. *et al.* (2017): Cooperative Catalogue of Palaeartic Coleoptera Curculionidea, Monografías electrónicas SEA8 Sociedad Entomológica Aragonesa S.E.A., 729pp.
- Billberg, G.J. (1820): Enumeratio insectorum in museo Gust. Joh. Billberg. Stockholm: Typis Gadelianis, [2]:138 pp.
- Boheman, C.H. (1842a): [new taxa]. In: Schoenherr CJ. Genera et species Curculionidum, cum synonymia hujus familiae. Species novae aut hactenus minus cognitae, descriptionibus a Dom. Leonardo Gyllenhal, C. H. Boheman, O. J. Fåhraeus, et entomologiis aliis illustratae. Tomus sextus. - Pars secunda. Supplementum continens. Parisiis: Roret; Lipsiae: Fleischer, [4] + 495 pp.
- Boheman CH (1842b) [new taxa]. In: Schoenherr CJ. Genera et species curculionidum, cum synonymia hujus familiae. Species novae aut hactenus minus cognitae, descriptionibus a Dom. Leonardo Gyllenhal, C. H. Boheman, Fahraeus et entomologis aliis illustratae. Tomus septimus. - Pars prima. [1843]. Parisiis: Roret; Lipsiae: Fleischer, 479 pp.
- Chevrolat, A. (1866): Descriptions De Coléoptères D'Espgne, nouveaux ou peu connus, 1<sup>er</sup> Mémoire suite. *Revue et magasin de Zoologie*, (2) 18: 24-29.
- Fabricius, J.C. (1801): Systema eleutheratorum secundum ordines, genera, species: adiectis synonymis, locis, observationibus, descriptionibus. Tomus II. Kiliae: Impensis Bibliopolii Academici Novi, 687 pp.
- Faust J. 1884. Russische Rüsselkäfer. *Stettiner Entomologische Zeitung* 45 (10–12): 449–472.
- Hoffmann, A. (1954): Coléoptères Curculionidae. Deuxième partie. – Faune de France 59: 487–1208. Lechevalier, Paris, France.
- Korotyayev, B. A. & Gültekin, L. (2003): Biology of two weevils, *Lixus ochraceus* Boheman and *Melanobaris gloriae* sp. n. (Insecta: Coleoptera: Curculionidae), associated with *Tchihatchewia isatidea* Boissier, a cruciferous plant endemic of Turkey. *Entomologische Abhandlungen*, 62 (1): 95–101.
- Legalov, A. A., Ghahari, H. and Arzanov, Yu. G. (2010): Annotated Catalogue of Curculionid-beetles (Coleoptera: Anthribidae, Rhynchitidae, Attelabidae, Brentidae, Brachyceridae, Dryophthoridae and Curculionidae) of Iran. *Amurian Zoological Journal*, II (3): 191-244.
- Linnaeus, C. (1767): Systema Naturae per regna tria naturae, secundum classes, ordines, genera, species, cum characteribus, differentiis, synonymis, locis. Editio decima,

- reformata. Tomus I. Pars II. Holmiae: L. Salvii, [2]: 533-1327+ [37] pp. [14-VI-1767]
- Gültekin, L. and Frmeuth, J. (2013): tribe: Lixini: In Catalogue of Palaearctic Coleoptera. Curculionoidea II (8). Löbl I. and Smetana A. (eds.), Brill, Leiden-Boston: 456-472.
- Meregalli, M. (2014): Lixinae Schoenherr, 1823. In: Leschen, R.A.B. & Beutel, R.G. (Eds.), Coleoptera, Beetles. Vol. 3. Morphology and Systematics (Phytophaga). Handbook of Zoology: Arthropoda: Insecta. De Gruyter, Berlin/Boston, pp: 523-529.
- Olivier, G.A. (1807): Entomologie, ou histoire naturelle des insectes, avec leurs caractères généraux et spécifiques, leur description, leur synonymie et leur figure enluminée. Tom. V. Desray, Paris, 612 [3] pp. doi: 10.5962/bhl.title.49479
- Petri, K. (1904a): Beschreibung einiger neuer Lixus-Arten, *Wiener Entomologische Zeitung*, XXIII (III, IV): 65-77.
- Petri, K. (1904b): Bestimmungs-Tabelle der mir bekannt gewordenen Arten der Gattung Lixus Fab. aus Europa und angrenzenden gebieten, *Wiener Entomologische Zeitung*, XXIII (IX): 183-198.
- Petri, K. (1912b): Ein neuer Lixus aus Turkestan und Bemerkungen zu meiner Bestimmungstabelle des genus Lixus Fab. *Annales Musei Nationalis Hungarici*, 10: 277-280.
- Reitter, E. (1916): Fauna Germanica. Die Käfer des Deutschen Reiches. Nach der analytischen Methode bearbeitet. V Band., Schriften des Deutschen Lehrervereins für Naturkunde. XXXIII Band, K. G. Lutz' Verlag. Stuttgart. 343pp.
- Schoenherr, C.J. (1823): Curculionides. Isis Oken [Heft x]: cols. 1132–1146. Available at: <https://www.biodiversitylibrary.org/item/47603>
- Schoenherr, C.J. (1826): Curculionidum dispositio methodica cum generum characteribus, descriptionibus atque observationibus variis seu prodromus and synonymiae insectorum. Part 4. Fleischer, Lipsiae [= Leipzig], x + 338 pp. doi: 10.5962/bhl.title.932
- Skuhrovec, J., Stejskal, R., Trnka, F. & Gosik, R. (2014): Digital-Weevil-Determination for Curculionoidea of West Palaearctic. Cleonini (Lixinae). - SNUDEBILLER: Studies on taxonomy, biology and ecology of Curculionoidea 15, No. 227, CURCULIO-Institute: Mönchengladbach.
- Zarrabi, M., Fathpoor, H. & Hadjian, M. (2005): Sugar beet curculionids fauna in the beet farms of warm and dry region of Iran. – Proceedings of the 68th Congress of the International Institute of Beet Research (IIRB), Maastricht, Netherland, June 20th–23rd, 2005. IIRB, Brussels, Belgium.